Vertical omnidirectional antennas radiate in a pattern similar to a horizontal doughnut. Their gain is less than that of a yagi antenna which concentrates radiation in a single direction. This reduced gain limits the effective range of the omnidirectional antenna, but proves effective when directivity is not desired. Omnidirectional antennas are useful in short range applications where their use eliminates the need for antenna alignment. Omnidirectional antennas are also useful on the control end of a polling system.

When an omnidirectional antenna is used on the control end of a polling system, a yagi can be used on each slave unit for maximum gain and reduction in possible interference due to the front to back ratio gain reduction of the yagi antenna.

The 4008 antenna swivels 90° at the base to allow the antenna to remain vertical with the base mounted either vertically or horizontally. Designed for indoor mounting, this 7" whip offers flexibility in mounting and dependable performance for short range systems.
**DESCRIPTION**

This kit includes two (2) 4025 heavy duty yagi antennas that are terminated with Type N male connectors that mate with a supplied 4074 two-port coupler. The coupler adds the output of the two antennas and provides approximately 2X the signal of one antenna (3dB).

A yagi antenna can be operated with the elements mounted vertically or horizontally, but the most common use for industrial wireless is vertical. The transmitting and receiving antenna must both have the same element polarization for satisfactory operation. A large loss in signal is experienced when the elements are crossed polarized.

When a vertical omnidirectional antenna is used on the control end of a polling system, a yagi can be used on each slave unit for maximum gain front to back ratio gain reduction.

These heavy duty yagi antennas are constructed of 1" aluminum U channel with 3/8" solid elements. All exposed areas are coated with UV polyester. The balun assembly is filled and sealed with elastomeric thermoplastic. The output of the 4074 two-port coupler is a Type N Female connector.

---

**SPECIFICATIONS**

**ELECTRICAL**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GAIN</strong></td>
<td>17dBi</td>
</tr>
<tr>
<td>Front to Back Ratio</td>
<td>20dB</td>
</tr>
<tr>
<td><strong>FREQUENCY</strong></td>
<td>896-960MHz</td>
</tr>
<tr>
<td><strong>IMPEDANCE</strong></td>
<td>50 ohms</td>
</tr>
<tr>
<td><strong>VSWR</strong></td>
<td>60MHz &lt;1.5:1</td>
</tr>
<tr>
<td><strong>POWER RATING</strong></td>
<td>300 watts</td>
</tr>
</tbody>
</table>

**CONNECTOR**

Type N Female On 2 Port Coupler

---

**MECHANICAL**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MATERIAL</strong></td>
<td>1&quot; aluminum U channel boom 3/8&quot; solid elements</td>
</tr>
<tr>
<td><strong>FINISH</strong></td>
<td>UV inhibited polyester coat</td>
</tr>
<tr>
<td><strong>LENGTH</strong></td>
<td>48&quot;</td>
</tr>
<tr>
<td><strong>WEIGHT</strong></td>
<td>8 lbs.</td>
</tr>
<tr>
<td><strong>MOUNT</strong></td>
<td>Stainless Hardware for 2¾&quot; mast</td>
</tr>
<tr>
<td><strong>FLAT PLATE AREA</strong></td>
<td>.998 ft²</td>
</tr>
<tr>
<td><strong>WIND RATING</strong></td>
<td>125 MPH</td>
</tr>
<tr>
<td><strong>WIND LOAD</strong></td>
<td>67.4 lbs.</td>
</tr>
</tbody>
</table>

---

**HORIZONTAL PATTERN**

![Horizontal Pattern](image)

**VERTICAL PATTERN**

![Vertical Pattern](image)
Yagi antennas achieve more gain than vertical antennas by concentrating radiation in a single direction. Their reduced gain from the back end helps keep other signals from interfering with normal operation. The front to back ratio is an important characteristic of a yagi antenna.

A yagi antenna can be operated with the elements mounted vertically or horizontally, but the most common use for industrial wireless is vertical. The transmitting and receiving antenna must both have the same element polarization for satisfactory operation. A large loss in signal is experienced when the elements are crossed polarized.

When a vertical omnidirectional antenna is used on the control end of a polling system, a yagi can be used on each slave unit for maximum gain and reduction in interference due to the front to back ratio gain reduction.

These heavy duty yagi antennas are constructed of 1" aluminum U channel with 3/8" solid elements. All exposed areas are coated with UV polyester. The balun assembly is filled and sealed with elastomeric thermoplastic. The connector is a Type N Female on a 12" teflon pigtail cable.

### SPECIFICATIONS

**ELECTRICAL**

- **GAIN**
  - 14dBi
- **Frequency**
  - 900-930MHz
- **Impedance**
  - 50 ohms
- **VSWR**
  - <2:1
- **Vert Beamwidth**
  - 45°
- **Horiz Beam Width**
  - 50°
- **Power Rating**
  - 300 watts
- **Connector**
  - Type N Female on 12" Teflon Pigtail

**MECHANICAL**

- **Material**
  - 1" aluminum U channel boom
  - 3/8" solid elements
- **Finish**
  - UV inhibited polyester coat
- **Length**
  - 48"
- **Weight**
  - <4 lbs.
- **Mount**
  - Stainless Hardware for 2 1/8" mast
- **Flat Plate Area**
  - .265 ft²
- **Wind Rating**
  - 125 MPH
- **Wind Load**
  - 15.9 lbs.

### DESCRIPTION

Yagi antennas achieve more gain than vertical antennas by concentrating radiation in a single direction. Their reduced gain from the back end helps keep other signals from interfering with normal operation. The front to back ratio is an important characteristic of a yagi antenna.

A yagi antenna can be operated with the elements mounted vertically or horizontally, but the most common use for industrial wireless is vertical. The transmitting and receiving antenna must both have the same element polarization for satisfactory operation. A large loss in signal is experienced when the elements are crossed polarized.

When a vertical omnidirectional antenna is used on the control end of a polling system, a yagi can be used on each slave unit for maximum gain and reduction in interference due to the front to back ratio gain reduction.

These heavy duty yagi antennas are constructed of 1" aluminum U channel with 3/8" solid elements. All exposed areas are coated with UV polyester. The balun assembly is filled and sealed with elastomeric thermoplastic. The connector is a Type N Female on a 12" teflon pigtail cable.
Yagi antennas achieve more gain than vertical antennas by concentrating radiation in a single direction. Their reduced gain from the back end helps keep other signals from interfering with normal operation. The front to back ratio is an important characteristic of a yagi antenna.

A yagi antenna can be operated with the elements mounted vertically or horizontally, but the most common use for industrial wireless is vertical. The transmitting and receiving antenna must both have the same element polarization for satisfactory operation. A large loss in signal is experienced when the elements are crossed polarized.

When a vertical omnidirectional antenna is used on the control end of a polling system, a yagi can be used on each slave unit for maximum gain and reduction in interference due to the front to back ratio gain reduction. These heavy duty yagi antennas are constructed of 1" aluminum U channel with 3/8" solid elements. All exposed areas are coated with UV polyester. The balun assembly is filled and sealed with elastomeric thermoplastic. The connector is a Type N Female on a 12" teflon pigtail cable.

**SPECIFICATIONS**

**ELECTRICAL**

- **GAIN**
  - 11dBi
  - Front to Back Ratio 20dB
- **FREQUENCY**
  - 900-930MHz
- **IMPEDANCE**
  - 50 ohms
- **VSWR**
  - <2:1
- **VERT BEAMWIDTH**
  - 50°
- **HORIZ BEAM WIDTH**
  - 55°
- **POWER RATING**
  - 300 watts
- **CONNECTOR**
  - Type N Female on 12" Teflon Pigtail

**MECHANICAL**

- **MATERIAL**
  - 1" aluminum U channel boom
  - 3/8" solid elements
- **FINISH**
  - UV inhibited polyester coat
- **LENGTH**
  - 26"
- **WEIGHT**
  - <4 lbs.
- **MOUNT**
  - Stainless Hardware for 2¾” mast
- **FLAT PLATE AREA**
  - .265 ft²
- **WIND RATING**
  - 125 MPH
- **WIND LOAD**
  - 15.9 lbs.
Yagi antennas achieve more gain than vertical antennas by concentrating radiation in a single direction. Their reduced gain from the back end helps keep other signals from interfering with normal operation. The front to back ratio is an important characteristic of a yagi antenna.

A yagi antenna can be operated with the elements mounted vertically or horizontally, but the most common use for industrial wireless is vertical. The transmitting and receiving antenna must both have the same element polarization for satisfactory operation. A large loss in signal is experienced when the elements are crossed polarized.

When a vertical omnidirectional antenna is used on the control end of a polling system, a yagi can be used on each slave unit for maximum gain and reduction in interference due to the front to back ratio gain reduction.

These heavy duty yagi antennas are constructed of 1" aluminum U channel with 3/8" solid elements. All exposed areas are coated with UV polyester. The balun assembly is filled and sealed with elastomeric thermoplastic. The connector is a Type N Female on a 12" teflon pigtail cable.
Yagi antennas achieve more gain than vertical antennas by concentrating radiation in a single direction. Their reduced gain from the back end helps keep other signals from interfering with normal operation. The front to back ratio is an important characteristic of a yagi antenna.

A yagi antenna can be operated with the elements mounted vertically or horizontally, but the most common use for industrial wireless is vertical. The transmitting and receiving antenna must both have the same element polarization for satisfactory operation. A large loss in signal is experienced when the elements are crossed polarized.

When a vertical omnidirectional antenna is used on the control end of a polling system, a yagi can be used on each slave unit for maximum gain and reduction in interference due to the front to back ratio gain reduction.

These heavy duty yagi antennas are constructed of 1” aluminum U channel with 3/8” solid elements. All exposed areas are coated with UV polyester. The balun assembly is filled and sealed with elastomeric thermoplastic. The connector is a Type N Female on a 12” teflon pigtail cable.

**SPECIFICATIONS**

**ELECTRICAL**

- **GAIN**
  - 8dBi
- **Frequency**
  - 900-930MHz
- **Impedance**
  - 50 ohms
- **VSWR**
  - <2:1
- **Vert Beam Width**
  - 70°
- **Horiz Beam Width**
  - 90°
- **Power Rating**
  - 300 watts
- **Connector**
  - Type N Female on 12” Teflon Pigtail

**MECHANICAL**

- **Material**
  - 1” aluminum U channel boom
  - 3/8” solid elements
- **Finish**
  - UV inhibited polyester coat
- **Length**
  - 18”
- **Weight**
  - <4 lbs.
- **Mount**
  - Stainless Hardware for 23/8” mast
- **Flat Plate Area**
  - .147 ft²
- **Wind Rating**
  - 125 MPH
- **Wind Load**
  - 8.8 lbs.
Vertical omnidirectional antennas radiate in a pattern similar to a horizontal doughnut. Their gain is proportional to their length. Increasing the length makes the doughnut pattern thinner and thereby increases the power radiated horizontally.

Omnidirectional antennas are useful in applications where their use eliminates the need for antenna alignment. Omnidirectional antennas are routinely used on the control end of a polling system.

When an omnidirectional antenna is used on the control end of a polling system, a yagi can be used on each slave unit for maximum gain and reduction in possible interference due to the front to back ratio gain reduction of the yagi antenna.

Designed for outdoor mounting, this 60” vertical antenna offers gain and flexibility in mounting, for ease of installation and dependable performance for medium to long range systems.

The radiating structure of this antenna is encased in a fiberglass radome to provide protection for the copper radiators. The fiberglass radome is ultraviolet inhibited. The heavy wall aluminum mounting sleeve is epoxy coated for superior weather protection.

These antennas are lightweight at 5 lbs. and are designed to survive winds to 125 MPH.

**SPECIFICATIONS**

**ELECTRICAL**
- **GAIN**: 8.5 dBi
- **FREQUENCY**: 900-930 MHz
- **IMPEDANCE**: 50 ohms
- **BANDWIDTH**: 30 MHz
- **VSWR**: <2.0:1
- **VERT BEAM WIDTH**: 15°
- **POWER RATING**: 250 watts
- **CONNECTOR**: Type N Female

**MECHANICAL**
- **RADIATOR**: Copper alloy elements
- **RADOME**: White UV inhibited fiberglass
- **MOUNTING SLEEVE**: Heavy wall epoxy coated aluminum
- **SLEEVE DIAMETER**: 1.35”
- **LENGTH**: 60”
- **WEIGHT**: 5 lbs.
- **WIND SURVIVAL**: 125 MPH
Vertical omnidirectional antennas radiate in a pattern similar to a horizontal doughnut. Their gain is proportional to their length. Increasing the length makes the doughnut pattern thinner and thereby increases the power radiated horizontally. Omnidirectional antennas are useful in applications where their use eliminates the need for antenna alignment. Omnidirectional antennas are routinely used on the control end of a polling system.

When an omnidirectional antenna is used on the control end of a polling system, a yagi can be used on each slave unit for maximum gain and reduction in possible interference due to the front to back ratio gain reduction of the yagi antenna.

Designed for outdoor mounting, this 27” vertical antenna offers gain and flexibility in mounting, for ease of installation and dependable performance for medium to long range systems.

The radiating structure of this antenna is encased in a fiberglass radome to provide protection for the copper radiators. The fiberglass radome is ultraviolet inhibited.

This antenna is supplied with integrated mounting hardware for easy mounting on a 1 1/2” standard mast.

### ELECTRICAL
- **GAIN**: 6 dBi
- **FREQUENCY**: 890-970MHz
- **IMPEDANCE**: 50 ohms
- **VSWR**: <2:1
- **VERT BEAM WIDTH**: 35°
- **POWER RATING**: 100 watts
- **CONNECTOR**: Type N Female

### MECHANICAL
- **RADIATOR**: Copper structure
- **RADOME**: White UV inhibited fiberglass
- **SLEEVE DIAMETER**: 1.35”
- **LENGTH**: 27”
- **WEIGHT**: <3 lbs.
- **MOUNTING**: 1 1/2” mast kit (supplied)
**ANTENNAS**

### FEATURES
- Dual Band 880-1200MHz / 2.3-2.6GHz
- Polyester Coated Brass Radiator
- Gold Plated Contacts
- Requires Accessory 4024 or 4044 for Mounting

### DESCRIPTION
Vertical omnidirectional antennas radiate in all directions therefore their gain is less than that of a yagi antenna that concentrates radiation in a single direction. This reduced gain limits the effective range of the omnidirectional antenna.

Omnidirectional antennas are useful in applications where their use eliminates the need for antenna alignment. Omnidirectional antennas are routinely used on the control end of a polling system.

When an omnidirectional antenna is used on the control end of a polling system, a yagi can be used on each slave unit for maximum gain and reduction in possible interference due to the front to back ratio gain reduction of the yagi antenna.

This Dual Band antenna has an ultra wide bandwidth for the 880-1200MHz and 2300-2600MHz bands and provides 2.1dBi gain on both.

The brass radiator is coated with a polyester radome for corrosion resistance. The contacts are gold plated for corrosion resistance.

This antenna requires accessory 4024 or 4044 for mounting. Part 4024 is a Type N female connector designed for bulkhead mounting. The other end of the bulkhead mount interfaces with the antenna.

Part 4044 allows the bulkhead connector (4024) to be mounted on a right angle bracket which has hardware to allow mounting the antenna vertically on a vertical pipe.

To insure specified operation, this antenna must have a conductive surface under it when it is mounted. Mounting the antenna on a metal electrical box provides a satisfactory ground plane.

When mounting the antenna on a mast, accessory 4044 provides an adequate ground plane for 2.4GHz operation. When used for 900MHz systems, a larger ground plane is required (4045).

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>ELECTRICAL</th>
<th>MECHANICAL</th>
<th>VERTICAL PATTERN</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FREQUENCY RANGE:</strong></td>
<td><strong>RADIATOR:</strong> Polyester coated Brass</td>
<td></td>
</tr>
<tr>
<td>880-1200MHz</td>
<td><strong>BASE:</strong> ABS, Ultrasonic Brass Insert.</td>
<td></td>
</tr>
<tr>
<td>2300-2600MHz</td>
<td><strong>CONTACT:</strong> Gold plated spring loaded contact</td>
<td></td>
</tr>
<tr>
<td><strong>GAIN:</strong> 2.1dBi</td>
<td><strong>LENGTH:</strong> 2 3/4&quot;</td>
<td>2.4GHz</td>
</tr>
<tr>
<td><strong>VSWR:</strong> &lt;2:1</td>
<td><strong>MOUNTING:</strong> Accessories 4024, 4044, 4045</td>
<td></td>
</tr>
<tr>
<td><strong>IMPEDEANCE:</strong> 50 ohms</td>
<td><strong>FINISH:</strong> Black</td>
<td>Vertical Pattern</td>
</tr>
<tr>
<td><strong>POWER RATING:</strong> 200 watts</td>
<td></td>
<td>Vertical Pattern</td>
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</tbody>
</table>